

November 2005
FACT SHEET
NAVAJO TRIBAL UTILITY AUTHORITY (NTUA) -Navajo Townsite
NPDES Permit No. NN0030335

I. Introduction

On March 25, 2005, the Navajo Tribal Utility Authority (NTUA) submitted an National Pollutant Discharge Elimination System (NPDES) permit application for a new Navajo Townsite wastewater treatment lagoon facility located at Navajo, New Mexico. The facility was constructed in 2003 and is intended to replace the existing NTUA Navajo facility (NPDES No. NM0020613), which had a long history of exceeding permit effluent limits in 1990's. The permit violations at the old Navajo plant were attributable to industrial wastewater discharge received from the Navajo Forest Products Industries until 1994 when the industry ceased operation. The USEPA and the Navajo EPA had worked with the NTUA to bring the plant into compliance with its permit by dredging the plant lagoons, but violations persisted at the plant with discharge of lagoon wastewater in varying shades of pink and burgundy. Permit No. NM0020613 for the old Navajo plant will remain in effect until a request for termination is received from the applicant.

Applicant address: Navajo Tribal Utility Authority
P.O. Box 170
Fort Defiance, Arizona 86504

Applicant contact: Harry L. Begaye
(928) 729-5721

Facility address: Red Lake Chapter
Navajo, McKinley County, New Mexico 87328

Facility contact: Kenneth Begay, District Manager
(928) 729-5727

II. Background

The new Navajo Townsite wastewater lagoon facility is located 0.75 miles southeast of Red Lake Chapter house, Navajo, McKinley County, New Mexico, within the Central portion of the Navajo Nation. The facility serves a population of over 2,873 (students, personnel, and residents), receiving only domestic sewage with a design flow of 0.32 million gallons per day (MGD). The new wastewater treatment plant has been accepting wastewater since August 2004, with an average daily discharge rate of 0.08 MGD. The old Navajo wastewater treatment facility had a design flow rate of 0.25

MGD.

The treatment facility is a three-cell facultative lagoon system. There is no pretreatment of wastewater flows at this facility. The wastewater from the collection system flows by gravity to a lift station, and a splitter box that directs flow in succession from Cell #1 to Cell #2 and Cell #3. Gas chlorination will be used to disinfect the wastewater before any discharge. Effluent will be discharged intermittently from Cell #3 through a 6-inch pipe to Outfall No. 001 into Black Creek (ephemeral), a tributary to the Puerco River (ephemeral), a tributary to the Little Colorado River. Sampling and monitoring under the proposed permit shall be performed at Outfall No. 001 prior to discharge.

EPA has determined that due to the low quantity and intermittent nature of the discharge, effluent released in compliance with this permit will have no effect on any threatened or endangered species that may be present in the area. No requirements specific to the protection of endangered species are proposed in the permit. A copy of the permit and fact sheet is being sent to the U.S. Fish and Wildlife Services for review during the public comment period.

III. Navajo Nation Surface Water Quality Standards

The Navajo Nation has received Treatment as a State (“TAS”) for Section 106 of the Clean Water Act (“CWA”) but has not yet received TAS for the purposes of Section 303 of the CWA. Section 106 grant money was used to develop water quality standards and use designations, which must be approved under Section 303 by EPA Region 9. The Navajo Nation adopted the Navajo Nation Surface Water Quality Standards (“NNSWQS”) on September 7, 1999 and promulgated on November 9, 1999. The NNSWQS, along with a TAS application under Section 303, were submitted to EPA in November 1999. A revision to the NNSWQS was approved by the Navajo Nation Council on July 30, 2004. In the interim, until such time as there are approved water quality standards in place, the Navajo Nation water quality standards will be used on a best professional judgment (“BPJ”) basis for purposes of developing water quality based effluent limitations.

IV. Basis of Proposed Permit Requirements

The proposed discharge limitations are based on:

A. Secondary Treatment Regulations contained in 40 CFR Part 133, Sections 133.101 through 133.105, promulgated September 20, 1984, and most recently amended on January 27, 1989. EPA used these regulations and its BPJ to develop limits for this facility.

B. Navajo Nation Water Quality Standards--September 1999, revised July 30, 2004.

V. Designated Uses of the Receiving Water

The designated uses of the receiving water (Black Creek of the Little Colorado River) as defined by the NNSWQS are primary and secondary human contact, aquatic habitat, and livestock and wildlife watering (Table 204.1, page 19.)

VI. Determination of Effluent Limitations, Monitoring, and Reporting Requirements

A. Flow Rates

Under the proposed permit, there is no flow limit but the monthly and daily maximum flows must be monitored and reported. The monitoring frequency is once/month. This is consistent with the previous permit.

B. Five-Day Biochemical Oxygen Demand (BOD₅)

Under the proposed permit, the discharge shall not exceed a weekly average of 45 mg/l and a monthly average of 30 mg/l BOD₅, and shall achieve no less than a monthly average rate of 85% removal. These limits are required under 40 CFR Part 133.102(a).

Under 40 CFR Part 122.45(f), mass limits are required for BOD₅. Based upon the maximum daily flow of 0.32 MGD flow, the mass limits for BOD₅ are based on the following calculations:

Weekly average

$$\frac{0.32 \text{ MG}}{\text{day}} \times \frac{45 \text{ mg}}{\text{l}} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 54 \text{ kg/day}$$

Monthly average

$$\frac{0.32 \text{ MG}}{\text{day}} \times \frac{30 \text{ mg}}{\text{l}} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 36 \text{ kg/day}$$

The monitoring frequency is once/month. Sampling and monitoring shall be performed at the final discharge prior to chlorination.

C. Total Suspended Solids (TSS)

Under the proposed permit, the discharge shall not exceed a weekly average of 45 mg/l and a monthly average of 30 mg/l TSS, and shall achieve no less than a monthly average rate of 85% removal. These limitations (Alternative State Requirements) are consistent with 40 CFR Parts 133.101(f), 133.102(b) and 133.103(c). Mass limit requirements in accordance with 40 CFR 122.45(f) have also been proposed and are based upon the same calculation shown above for BOD₅. The weekly average is 54 kg/day and the monthly average is 36 kg/day. The monitoring frequency is once per month. Sampling and monitoring shall be performed prior to chlorination.

D. Escherichia coli (E. coli)

In the proposed permit, the monthly logarithmic mean of E. coli bacteria shall not exceed 126 coliform forming units (CFU), as a geometric average of samples collected during the calendar month, and 235 CFU as a single sample maximum. These limits are based on the NNSWQS for primary human contact (Table 205A.1, p. 26). The monitoring frequency is once per month.

E. Total Residual Chlorine (TRC)

The permit requires the discharger to meet a TRC limit of 11 µg/l as an instantaneous maximum if chlorination is used for disinfection of the effluent before discharge. This limit is based on Best Professional Judgment and should assure that the Navajo Nation Surface Water Quality Standards for protection of aquatic life, and wildlife and livestock (11 µg/l) is met in the receiving water when aquatic life is present (Table 205B.2, page 30.) The monitoring frequency is once per month for both the effluent and in the receiving water.

F. Total Dissolved Solids (TDS)

The proposed permit requires monitoring and reporting of both the influent and effluent TDS. The regulations at 40 CFR 122.44(i) allow requirements for monitoring as determined to be necessary. The monitoring frequency is once/quarter.

G. Ammonia (as un-ionized NH₃)

The proposed permit establishes a monitoring and reporting requirement for ammonia. The monitoring frequency is once per quarter. If analytical results for the first four quarters reveal ammonia levels are below EPA's National Water Quality Criteria for ammonia, the monitoring frequency will decrease to once per year. The regulations at 40 CFR Part 122.44(i) allow requirements for monitoring as determined to be necessary.

H. pH

The proposed permit requires that effluent pH not fall below 6.5 or above 9.0 standard pH units, based on the Navajo Nation numeric water quality standards for primary and secondary human contact, and for aquatic habitat (Table 205A.1, page 26 and Table 205B.1, page 30.) The monitoring frequency is once per month.

I. Reporting

The proposed permit requires discharge data obtained during the previous three months to be summarized on monthly DMR forms and reported quarterly. If there is no discharge for the month, report "C" in the No Discharge box on the DMR form for that month. These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the EPA Regional Administrator and the Navajo Nation EPA.

J. General Standards

The proposed permit sets general standards that are narrative water quality standards contained in the Navajo Nation Water Quality Standards, Section 203. These general standards are set forth in Section B. General Discharge Specifications of the permit.

VII. Permit Reopener

At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursions above water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. The proposed permit may be modified, in accordance with the requirements set forth at 40 CFR 122 and 124, to include conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any new EPA-approved Tribal water quality standards.

VIII. Biosolids Requirements

The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall discuss the quantity of biosolids produced, the treatment applied to biosolids including process parameters, disposal methods, and, if land applied, analyses for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Zinc, and Selenium, and organic-N, ammonium-N, and nitrate-N, all expressed in mg/kg biosolids on a 100% dry weight basis. The permittee shall comply with all standards for biosolids

use and disposal at Section 405(d) of the CWA, and 40 CFR Parts 257, 258 and 503.

IX. Threatened and Endangered Species and Critical Habitat

A. Background:

Section 7 of the Endangered Species Act (ESA) of 1973 requires Federal agencies such as EPA to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any actions authorized, funded or carried out by the Agency are not likely to jeopardize the continued existence of any Federally- listed endangered or threatened species or adversely modify or destroy critical habitat of such species. Since the issuance of NPDES permits by EPA is a Federal action, consideration of a permitted discharge and its effect on any listed species is appropriate.

The proposed NPDES permit authorizes the discharge of municipal waste into Black Creek wash, a tributary to Puerco River, an eventual tributary to the Little Colorado River, a water of the United States. The proposed permit contains provisions for monitoring conventional, toxic chemicals, and nonconventional pollutants in compliance with the Navajo Nation Surface Water Quality standards, to ensure an appropriate level of quality of water discharged by the facility. Re-opener clauses have been included should new information become available to indicate that the requirements of the permit need to be changed.

EPA has received species listing information from the Navajo Nation's Department of Fish & Wildlife – Natural Heritage Program (NHP) in July 2005. The FWS has deferred all of its survey and information collection in the Navajo Nation to the Navajo Nation NHP. NTUA has also submitted to EPA its survey result conducted in August 2005 on threatened or endangered species of concern that may be present in the discharge area.

B. EPA's Finding:

This permit authorizes the discharge of treated wastewater in conformance with the federal secondary treatment regulations and the Navajo Nation Surface Water Quality Standards. These standards are applied in the permit both as numeric and narrative limits. Therefore, since the standards themselves are designed to protect aquatic species, including threatened and endangered species, any discharge in compliance with these standards should not adversely impact any threatened and endangered species. Furthermore, the water course into which the effluent is discharged is an ephemeral river bed, which without the discharge of effluent would be dry. For the majority of the year, the discharge never reaches a perennial stream capable of supporting aquatic habitat.

EPA has determined that due to the low quantity and the intermittent of the discharge, effluent released in compliance with this permit will have no effect on any

Federally-listed threatened or endangered species or its critical habitat that may be present

in the area. No requirements specific to the protection of endangered species are proposed in the permit. A copy of the permit and fact sheet is being sent to the U.S. Fish and Wildlife Services for review during the 30-day public comment period.

X. Written Comments

Persons who wish to comment upon, object to the proposed action, or request a public hearing pursuant to 40 CFR Part 124.11 must submit their comments and requests in writing within thirty (30) days from the date of the Public Notice, either in person or by mail to:

U.S. Environmental Protection Agency, Region IX
CWA Standards and Permits Office (WTR-5)
Attn: Linh Tran
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 972-3511

XI. Information and Copying

The Administrative Record, which contains the draft NPDES permit, the fact sheet, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address.

All comments or objections received within thirty (30) days from the date of the Public Notice, will be retained and considered in the formulation of the final determination regarding the permit issuance.

XII. Public Hearing

When public interest warrants, the Regional Administrator shall hold a public hearing and such notice of hearing shall be issued by public notice at least thirty (30) days prior to the hearing date. A request for a public hearing must be in writing and must also state the nature of the issue proposed to be raised in the hearing.